

Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	ATTY. DOCKET NO. PB60213	INTERNATIONAL APPLICATION NO. PCT/EP04/04001 10/552571
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use several sheets if necessary)</i>		APPLICANT Barry BARTON, Susan JENSEN, Alison Michelle GRIFFIN and Annie WONG	
		FILING DATE Herewith	GROUP

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
AA	4,202,819	5/13/80	Kellett <i>et al.</i>	260	245.3	

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	BA	WO98/33896	06 Aug 1998	PCT				
	BB	WO01/30977	03 May 2001	PCT				
	BC	WO03/040372	15 May 2003	PCT				
	BD	WO00/03581	27 Jan. 2000	PCT				
	BE	JP 53-104796	12 Sept 1978	Japan				
	BF	ES 550549	1987	Spain				
	BG	EP 0 550549	20 Sept 1990	EP				
	BH	2,108,113	10 Apr 1995	Canada				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CA	Liras P., et al., "Clavulanic acid, a β -lactamase inhibitor: biosynthesis and molecular genetics," <i>Applied Microbiology and Biotechnology</i> , Springer Verlag Berlin, Germany (2000) 54(4):467-475.
CB	Mosher R., et al., "Genes Specific for the Biosynthesis of Clavam Metabolites Antipodal to Clavulanic Acid are Clustered with the Gene for Clavamate Synthase 1 in Streptomyces Clavuligerus," <i>Antimicrobial Agents and Chemotherapy</i> , American Society for Microbiology, Washington, DC (May 1999) 43(5):1215-1224.
CC	A.L. Demain, "Biosynthesis and Regulation of Beta-Lactam Antibiotics", <i>50 Years of Penicillin Applications, History & Trends</i> (1990).
CD	Townsend, et al., "Biosynthesis of clavulanic Acid: Origin of the C ₃ Unit," <i>J. Am. Chem. Soc.</i> , 107(4):1066-1068 (1985).
CE	Valentine, et al., "Evidence that Arginine is a Later Metabolic Intermediate than Ornithine in the Biosynthesis of Clavulanic Acid by Streptomyces Clavuligerus," <i>J. Chem. Soc. Chem. Comm.</i> , 15:1210-1211 (1993).

EXAMINER /Scott Long/	DATE CONSIDERED 04/11/2008
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /SL/

Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	ATTY. DOCKET NO. PB60213	INTERNATIONAL APPLICATION NO. PCT/JP04/0400 107592571
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use several sheets if necessary)</i>		APPLICANT Barry BARTON, Susan JENSEN, Alison Michelle GRIFFIN and Annie WONG	
		FILING DATE Herewith	GROUP

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CF	Janc, et al., "Emerging Evidence for a Shared Biosynthetic Pathway Among Clavulanic Acid and the Structurally Diverse Clavam Metabolites," <i>Bioorg. Med. Chem. Lett.</i> , 3:2313-2316 (1993).
CG	Rohl, et al., "Biological properties and mode of action of clavams," <i>Arch. Microbiol.</i> , 147:315-320 (1987).
CH	Aidoo, et al., "Cloning, sequencing and disruption of a gene from <i>Streptomyces clavuligerus</i> involved in clavulanic acid biosynthesis," <i>Gene</i> , 147:41-46 (1994).
CI	Sambrook, et al., <i>Molecular Cloning: A Laboratory Manual, 2nd Edition</i> . Cold Spring Harbor Laboratory, Cold Spring Harbor, NY (1989).
CJ	"Postassium Clavulanate," <i>British Pharmacopoeia</i> (1993); Addendum (1994) pp. 1362-1363.
CK	"Clavulanate Potassium," <i>British Pharmacopoeia Official Monographs, USP 23 NF18</i> pp: 384-385 (1985).
CL	Hopwood, et al., <i>Genetic Manipulation of Streptomyces. A Cloning Manual</i> (1985).
CM	Stahl, et al., "Development and Application of Nucleic Acid Probes," <i>Nucleic Acid Techniques in Bacterial Systematics</i> . Ed. E. Stackebrandt & M. Goodfellow. Toronto: John Wiley & Sons, pp. 204-248 (1991).
CN	Doran, et al., "Isolation and Characterization of a β -Lactamase-Inhibitory Protein from <i>Streptomyces Clavuligerus</i> and Cloning and Analysis of the Corresponding Gene," <i>J. Bacteriol.</i> 172(9):4909-4918 (1990).
CO	Vieira, et al., "Production of Single-Stranded Plasmid DNA," <i>Methods Enzymol.</i> , 153: 3-11 (1987).
CP	Sanger, et al., "DNA Sequencing with Chain-terminating Inhibitors," <i>Proc. Natl. Acad. Sci. USA</i> , 74: 5463-5467 (1977).
CQ	Ward, et al., "Construction and Characterisation of a Series of Multi-Copy Promoter-Probe Plasmid Vectors for <i>Streptomyces</i> Using the Aminoglycoside Phosphotransferase Gene from <i>Tn5</i> as Indicator," <i>Mol. Gen. Genet.</i> 203: 468-478 (1986).
CR	Pruess, et al., "A New Clavam Antibiotic from <i>Streptomyces Clavuligerus</i> ," <i>Journal of Antibiotics</i> , XXXVI(3): 208-212 (Mar. 1983).
CS	Paradkar, et al., "Functional analysis of the Gene Encoding the Clavamate Synthase 2 Isoenzyme Involved in Clavulanic Acid Biosynthesis in <i>Streptomyces Clavuligerus</i> ," <i>Journal of Bacteriology</i> , 177: 1307-1314 (1995).
CT	Hodgson, J.E. et al., "Clavulanic Acid Biosynthesis in <i>Streptomyces Clavuligerus</i> : Gene Cloning and Characterization," <i>Gene</i> , (1995) Vol. 166, pp. 49-55
EXAMINER /Scott Long/	
DATE CONSIDERED 04/11/2008	
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	ATTY. DOCKET NO. PB60213	INTERNATIONAL APPLICATION NO. PCT/EP04/04001
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		APPLICANT Barry BARTON, Susan JENSEN, Alison Michelle GRIFFIN and Annie WONG	
		FILING DATE Herewith	GROUP

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CU	Busby, R.W., "Expression and Purification of Two Isozymes of Clavaminate Synthase and Initial Characterization of the Iron Binding Site," <i>J. Biological Chem.</i> , (1995), Vol. 270(9), pp. 4262-69		
CV	Brown, D. et al., "Structures of Three Novel β -lactams Isolated from Streptomyces Clavuligerus," <i>J.C.S. Chem. Comm.</i> , (1979), pp. 282-3		
CW	Marsh, E.N. et al., "Two Isozymes of Clavaminate Synthase Central to Clavulanic Acid Formation: Cloning and Sequencing of Both Genes from Streptomyces Clavuligerus," <i>Biochemistry</i> , (1992), Vol. 31, pp. 12648-57		
CX	Elson, et al., "Studies on the Biosynthesis of Clavulanic Acid." <i>J. Antibiotics</i> , XXXI(6): 568 (1978)		
CY	Evans, R. H. et al., "Ro 22-5417, A New Clavam Antibiotic from Streptomyces Clavuligerus II. Fermentation, Isolation and Structure" <i>J. Antibiotics</i> , (1983), Vol. 36(3), pp. 213-216		
CZ	Muller, J-C. et al, "Ro 22-5417, A New Clavam Antibiotic from Streptomyces Clavuligerus III Absolute Stereochemistry," <i>J. Antibiotics</i> , (1983), Vol. 36(3), pp. 216-224		
CAA	King, H.D. et al., "Clavamycins, New Clavam Antibiotics from Two Variants of Streptomyces Hygroscopicus I. Taxonomy of the Producing Organisms, Germentation, and Biological Activities," <i>J. Antibiotics</i> , (1986), Vol. 39(4), pp. 510-15		
CBB	Janc, J.W. et al., "Purification and Characterizatgion of Clavaminate Synthase from Streptomyces Antibioticus," <i>J. Biological Chem.</i> , (1995), Vol. 270(10), pp. 5399-5404		
CCC	Iwata-Reuly, D. and C. A. Townsend, "Common Origin of Clavulanic Acid and Other Clavam Metabolites in Streptomyces," <i>J. Am. Chem. Soc.</i> , (1992), Vol. 114, pp. 2762-3		
CDD	Paradkar, A. S. and S. E. Jensen, "Functional Analysis of the Gene Encoding the Clavaminate Synthase 2 Isoenzyme Involved in Clavulanic Acid Biosynthesis in Streptomyces Clavuligerus," <i>J. Bacteriology</i> , (1995), Vol 177(5), pp. 1307-14		
CEE	Baldwin, J. E. et al., "Enzymes of Valcalavam Biosynthesis," <i>Tetrahedron Letters</i> , (1994), Vol. 35(17), pp. 2783-6		
CFF	Egan, L.A. et al., "Probable Role of Clavaminic Acid as the Terminal Intermediate in the Common Pathway to Clavulanic Acid and the Antipodal Clavam Metabolites," <i>J. Am. Chem. Soc.</i> , (1997), Vol. 119, pp. 2348-55		
EXAMINER	/Scott Long/	DATE CONSIDERED	04/11/2008

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.